

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A photomultiplier tube comprising:
 - a faceplate made from glass having a surface;
 - a side tube made from glass and having a hollow shape extending ~~along in a~~ tube ~~axis~~ axial direction which is substantially perpendicular to the faceplate, the side tube being joined to ~~one surface of~~ the faceplate;
 - a photocathode formed on ~~an inner region of the one surface of~~ the faceplate in the side tube to emit a photoelectron in response to light incident on the faceplate;
 - an electron multiplying portion provided in the side tube for multiplying the photoelectron emitted from the photocathode; and
 - an anode provided inside the side tube ~~in correspondence with the photocathode~~ for receiving an electron emitted from the electron multiplying portion, wherein the electron multiplying portion includes:
 - a first dynode ~~provided inside the side tube~~ placed at a position in the tube axial direction for multiplying the photoelectron impinging thereon from the photocathode to emit a secondary electron, the first dynode having a proximal end which is close to the anode;
 - a second dynode placed at a substantially same ~~tube axial~~ position as ~~a tube axial~~ the position of the first dynode inside the side tube in the tube axial direction, the second dynode multiplying the secondary electrons impinging thereon from the first dynode to emit a secondary electron, the second dynode having a proximal end which is close to the anode;
 - ~~a plurality dynodes including a third and higher order dynodes, the plurality of dynodes being~~ dynode provided on a ~~downstream~~ an anode side of the first and second

dynodes in the tube axial direction ~~inside the side tube~~ for multiplying the secondary electrons impinging thereon from the second dynode ~~in turn~~ to emit secondary electrons; and

a focusing electrode having:

a flat plate provided between the second and third dynodes, the flat plate having an aperture that enables the third dynode to face the second dynode;

a first screen provided on a first dynode side of the aperture, the first screen extending across ~~a lower~~ the proximal end of the first dynode toward the photocathode; and

a second screen provided on a second dynode side of the aperture, the second screen extending towards the photocathode so that a front end thereof is positioned above ~~a lower~~ the proximal end of the second dynode.

2. (Original) The photomultiplier tube according to Claim 1, wherein the focusing electrode is maintained at a potential which is higher than a potential of the second dynode and lower than a potential of the third dynode.

3. (Currently Amended) A photomultiplier tube comprising:

a faceplate made from glass having a surface;

a side tube made from glass and having a hollow shape extending ~~along in a~~ tube axis axial direction which is substantially perpendicular to the faceplate, the side tube being joined to ~~one surface~~ of the faceplate;

a photocathode formed on ~~an inner region of the one~~ surface of the faceplate in the side tube to emit a photoelectron in response to light incident on the faceplate;

an electron multiplying portion provided in the side tube for multiplying the photoelectron emitted from the photocathode; and

an anode provided inside the side tube ~~in correspondence with the~~ photocathode for receiving an electron emitted from the electron multiplying portion, wherein

the electron multiplying portion includes:

a first dynode ~~provided inside the side tube~~ placed at a position in the tube axial direction for multiplying the photoelectron impinging thereon from the photocathode to emit a secondary electron, the first dynode having a proximal end which is close to the anode;

a second dynode placed at a substantially same ~~tube axial~~ position as a ~~tube axial~~ the position of the first dynode inside the side tube in the tube axial direction, the second dynode multiplying the secondary electrons impinging thereon from the first dynode to emit a secondary electron, the second dynode having a proximal end which is close to the anode;

~~a plurality dynodes including a third and higher order dynodes, the plurality of dynodes being dynode~~ provided on a ~~downstream an anode~~ side of the first and second dynodes in the tube axial direction ~~inside the side tube~~ for multiplying the secondary electrons impinging thereon from the second dynode ~~in turn~~ to emit secondary electrons; and

a focusing electrode having:

a first screen formed on a ~~lower~~ proximal end side of the first dynode and extending across ~~a lower~~ the proximal end of the first dynode toward the photocathode;

a flat plate having a cut-away portion that enables the third dynode to face the second dynode; and

a second screen provided at the cut-away portion on a ~~lower~~ proximal end side of the second dynode, the second screen extending across ~~a lower~~ the proximal end of the second dynode towards the photocathode, the focusing electrode being secured between the second and third dynodes, thereby defining a space extending from the first dynode to the third dynode.

4. (Original) The photomultiplier tube according to Claim 3, wherein the focusing electrode is maintained at a potential which is higher than a potential of the second dynode and lower than a potential of the third dynode.

5. (Currently Amended) A photomultiplier tube comprising:

a faceplate made from glass having a surface;

a side tube made from glass and having a hollow shape extending ~~along in a~~
tube axis axial direction which is substantially perpendicular to the faceplate, the side tube
being joined to ~~one surface of~~ the faceplate;

a photocathode formed on ~~an inner region of the one surface of~~ the faceplate in
the side tube to emit a photoelectron in response to light incident on the faceplate;

an electron multiplying portion provided in the side tube for multiplying the
photoelectron emitted from the photocathode; and

an anode provided inside the side tube ~~in correspondence with the~~
~~photocathode~~ for receiving an electron emitted from the electron multiplying portion, wherein

the electron multiplying portion includes:

a first dynode ~~provided inside the side tube~~ placed at a position in the tube
axial direction for multiplying the photoelectron impinging thereon from the photocathode to
emit a secondary electron, the first dynode having a proximal end which is close to the anode;

a second dynode placed at a substantially same ~~tube axial~~ position as ~~a tube~~
~~axial~~ the position of the first dynode inside the side tube in the tube axial direction, the second
dynode multiplying the secondary electrons impinging thereon from the first dynode to emit a
secondary electron, the second dynode having a proximal end which is close to the anode;

~~a plurality dynodes including a third and higher order dynodes, the plurality of~~
~~dynodes being dynode~~ provided on ~~a downstream an anode~~ side of the first and second
dynodes in the tube axial direction ~~inside the side tube~~ for multiplying the secondary electrons
impinging thereon from the second dynode ~~in turn~~ to emit secondary electrons; and

a focusing electrode having:

a first screen formed on a ~~lower~~proximal end side of the first dynode and extending across a ~~lower~~the proximal end of the first dynode toward the photocathode;

a flat plate provided between the second and third dynodes, the flat plate having a first cut-away portion that enables the third dynode to face the second dynode and a second cut-away portion formed between the first and third dynodes; and

a second screen provided on a second dynode side of the first cut-away portion and extending across a ~~lower~~the proximal end of the second dynode towards the photocathode.

6. (Original) The photomultiplier tube according to Claim 5, wherein the focusing electrode is maintained at a potential that is higher than a potential of the second dynode and lower than a potential of the third dynode.

7. (Currently Amended) A photomultiplier tube comprising:

a faceplate made from glass having a surface;

a side tube made from glass and having a hollow shape extending ~~along in a~~along in a tube ~~axis~~axial direction which is substantially perpendicular to the faceplate, the side tube being joined to ~~one surface~~ of the faceplate;

a photocathode formed on ~~an inner region of the one~~ surface of the faceplate in the side tube to emit a photoelectron in response to light incident on the faceplate;

an electron multiplying portion provided in the side tube for multiplying the photoelectron emitted from the photocathode; and

an anode provided inside the side tube ~~in correspondence with the~~
~~photocathode~~ for receiving an electron emitted from the electron multiplying portion, wherein

the electron multiplying portion includes:

a first dynode ~~provided inside the side tube~~ placed at a position in the tube axial direction for multiplying the photoelectron impinging thereon from the photocathode to emit a secondary electron, the first dynode having a proximal end which is close to the anode;

a second dynode placed at a substantially same ~~tube axial~~ position as a ~~tube axial~~ the position of the first dynode inside the side tube in the tube axial direction, the second dynode multiplying the secondary electrons impinging thereon from the first dynode to emit a secondary electron, the second dynode having a proximal end which is close to the anode;

~~a plurality dynodes including a third and higher order dynodes, the plurality of dynodes being dynode~~ provided on a ~~downstream an anode~~ side of the first and second dynodes in the tube axial direction ~~inside the side tube~~ for multiplying the secondary electrons impinging thereon from the second dynode ~~in turn~~ to emit secondary electrons; and

a first focusing electrode provided on a ~~lower an anode~~ side of the first dynode and on ~~an upper a photocathode~~ side of the third dynode; and

a second focusing electrode provided on a ~~lower an anode~~ side of the second dynode and on ~~an upper a photocathode~~ side of the third dynode; and wherein

an electron multiplied by the second dynode travels in a space between the first and second focusing electrodes to impinge on the third dynode.

8. (Original) The photomultiplier tube according to Claim 7, wherein the first focusing electrode is integral with the second focusing electrode.

Amendments to the Drawings:

The attached replacement drawing sheet makes changes to Fig. 13 and replaces the original sheet with Fig. 13.

Attachment: Replacement Sheet